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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,840	01/28/2002	Hiroshi Yamamoto	SCEIYO 3.0-112	3658
530	7590	11/09/2004	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			HESSELTINE, RYAN J	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/058,840

Applicant(s)

YAMAMOTO, HIROSHI

Examiner

Ryan J Hesseltine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/18/02, 1/22/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (typical example of a general CLUT). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: An image processing method for generating three-dimensional images to be drawn on a two-dimensional screen.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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5. Claims 31-41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 31-40 are directed to a program execution device for executing an image processing program, wherein the limitations are directed to the image processing program, which does not constitute statutory subject matter. Similarly, claim 41 is directed to an image processing program to be executed on a computer, which is also non-statutory. A statutory computer program product with descriptive material must include a positive recitation of the computer readable medium, on which the computer program product is stored or recorded. See MPEP § 2106.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5-9, 11-13, 15-19, 21-23, 25-29, 31-33, 35-39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Liguori (USPN 5,912,672, newly cited).

8. Regarding claims 1, 11, 21, 31 and 41, Liguori discloses an image processing method and device, a computer readable recording medium having recorded thereon an image processing program to be executed on a computer, and a program execution device for executing an image processing program, comprising: retrieving a predetermined data section from data composing a first image (column 3, line 41-52); retrieving a coefficient value (opaque/transparency level entry) from a predetermined table 95 using a value of the predetermined data section as an index

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(column 17, line 31-63); and subjecting the first image to image processing using the coefficient value retrieved from the predetermined table (column 18, line 30-48).

9. Regarding claims 2, 12, 22 and 32, Liguori discloses that the predetermined table has a plurality of coefficient values (transparency levels  $k(x,y)$ ) which are gradated (inherent since  $k(x,y)$  is a linear function derived from scanner data or the current pixel position; column 17, line 11-19 and line 53-63).

10. Regarding claims 3, 13, 23 and 33, Liguori discloses synthesizing (blending, compositing) the first image with a separate second image depending on the coefficient value (transparency) (column 18, line 18-48).

11. Regarding claims 5, 15, 25 and 35, Liguori discloses determining as the coefficient value a semi-transparent coefficient ( $k(x,y)$ ), which defines a larger synthetic ratio of the second image as the value ( $x,y$ ) of the predetermined data section increases (column 17, line 11-30).

12. Regarding claims 6, 16, 26 and 36, Liguori discloses that the predetermined data section includes data expressing an edge of the first image (column 8, line 45-55); and retrieving the coefficient value from the predetermined table using as the index a value of the predetermined data section, which expresses the edge of the first image (column 17, line 31-63).

13. Regarding claims 7, 17, 27 and 37, Liguori discloses that the predetermined data section is one which largely affects the luminance of the first image (column 18, line 37-48); and retrieving the coefficient value from the predetermined table using as the index a value of the predetermined data section, which largely affects the luminance of the first image (column 17, line 31-63).

14. Regarding claims 8, 18, 28 and 38, Liguori discloses extracting a data section which expresses an edge of the first image from the predetermined data section (column 8, line 45-55); and retrieving the coefficient value from the predetermined table using a value of the extracted data section as the index (column 17, line 31-63).

15. Regarding claims 9, 19, 29 and 39, Liguori discloses that the data composing the first image includes red component data, green component data and blue component data (column 17, line 31-37, line 53-56), the predetermined data section is the green component data (column 18, line 49-53).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 4, 10, 14, 20, 24, 30, 34 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liguori as applied to claims 3, 6, 13, 16, 23, 26, 33 and 36 above.

18. Regarding claims 4, 14, 24 and 34, Liguori does not disclose blurring the first image to thereby generate the second image. The examiner takes Official Notice that blurring is well known in the art as a method of smoothing image edges. It would have been obvious to one of ordinary skill in the art at the time the invention was made to blur the first image to generate the second image before synthesizing the first and second images in order to perform anti-aliasing on the image edges to make the edges appear less jagged.

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19. Regarding claims 10, 20, 30 and 40, Liguori does not disclose that the predetermined data section which expresses an edge of the first image is extracted using Laplacean filtering. The examiner takes Official Notice that Laplacean (Laplacian) filtering is well known in the art as a method of edge detection. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Laplacean filtering to the first image in order to extract the predetermined data section which expresses an edge of the first image.

### *Conclusion*

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- USPN 5,250,928 to Kuriki discloses a graphics decoder including superimposing and overlaying functions using a transparency look-up table.
- USPN 5,473,737 to Harper discloses a method and apparatus for displaying a composite image made up of a foreground image and a background image.
- USPN 5,754,186 to Tam et al. discloses a method and apparatus for blending images including a look-up table for translucently combining pixel data.
- USPN 5,818,454 to Arai et al. discloses an image generation method and apparatus for displaying an image of a first object in overlapping fashion with a semi-transparent second object using colors stored in a look-up table.
- USPN 5,914,725 to MacInnis et al. discloses interpolation of pixel values and alpha values in a computer graphics display device.

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- USPN 6,208,350 to Herrera discloses methods and apparatus for processing DVD video including an alpha blending process allowing true translucent display including a lookup table.
- USPN 6,377,279 to Miura discloses an image generation method and apparatus including a blending technique using a transparent coefficient alpha.
- USPN 6,456,294 to Vos discloses a method and circuit for improving the chromatics of on-screen displays of a video image wherein colors are stored in color look-up table and a coefficient of transparency is assigned to each line before overlaying.
- USPN 6,466,224 to Nagata et al. discloses an image data composition and display device including a color table with color data associated with transparency data.
- USPN 6,803,968 to Numata discloses a system and method for synthesizing images wherein each pixel of a translucent composite image is represented by an index value associated with a color in a color table.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J Hesseltine whose telephone number is 703-306-4069.

The examiner can normally be reached on Monday - Friday, 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan J. Hesseltine  
November 4, 2004

  
JING G. WU  
PRIMARY EXAMINER